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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/777,562      | 02/12/2004  | Donald R. Loveday    | 1999U027.RE.US      | 1101             |

7590 02/19/2009  
Univation Technologies LLC  
Suite 1950  
5555 San Felipe  
Houston, TX 77056

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| EXAMINER |
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CHEUNG, WILLIAM K

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| ART UNIT | PAPER NUMBER |
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1796

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| MAIL DATE | DELIVERY MODE |
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02/19/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/777,562 | <b>Applicant(s)</b><br>LOVEDAY ET AL. |  |
|                              | <b>Examiner</b><br>WILLIAM K. CHEUNG | <b>Art Unit</b><br>1796               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5-8,10-15 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-8,10-15 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Request for Continued Examination***

1. The request filed on January 30, 2009 for a Request for Continued Examination (RCE) under 37 CFR 1.53(d) based on parent Application No. 10/777,562 is acceptable and a RCE has been established. An action on the RCE follows.
2. The examiner acknowledges the receipt of the amendment filed January 30, 2009. Claims 2-4, 9, 16-45 have been cancelled, and new claim 46 has been added. Claims 1, 5-8, 10-15, 46 are pending.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 5-8, 10-15, 46 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-38 of U.S. Patent No. 6,271,325. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the invention of Claims 1, 5-8, 10-15, 46 and the invention of claims 1-38 of U.S. Patent No. 6,271,325 are related to an olefin polymerization process using substantially identical catalyst. Regarding claims 13-15, Claims 16 and 17 of U.S. Patent No. 6,271,325 clearly teach the ethylene and propylene as claimed. Therefore, the examiner has a reasonable basis that that invention of Claims 1, 5-8, 10-15, 46 of instant application fully encompasses the invention of the invention of claims 1-38 of U.S. Patent No. 6,271,325.

Applicant's arguments filed January 30, 2009 have been fully considered but they are not persuasive. Applicants argue that a terminal disclaimer will be filed when the claims are found allowable. Therefore, the instant ODP is maintained until a terminal disclaimer is filed.

5. Claims 1, 5-8, 10-15, 46 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,300,439. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the invention of Claims 1, 5-8, 10-15, 46 and the invention of claims 1-14 of U.S. Patent No. 6,300,439 are related to an olefin

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polymerization process using substantially identical catalyst. Regarding claims 13-15, the specification of Patent No. 6,300,439 (page 10, line 11-18) clearly teach the monomers as claimed. Motivated by the expectation of success of preparing polyolefins using the disclosed catalyst system, it would have been obvious to one of ordinary skill in art to appreciate the process of polymerizing the disclosed monomers using the claimed catalyst system to obtain the invention of instant application.

Applicant's arguments filed January 30, 2009 have been fully considered but they are not persuasive. Applicants argue that a terminal disclaimer will be filed when the claims are found allowable. Therefore, the instant ODP is maintained until a terminal disclaimer is filed.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

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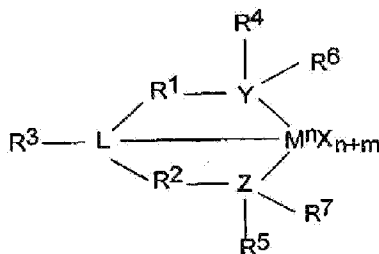
Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 5-8, 10-15, 46 are rejected under 35 U.S.C. 102(e) as being anticipated by McConville et al. (US 6,271,325) for the reasons adequately set forth from paragraph 12 of the office action of November 4, 2008.

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1. (Currently Amended) A process for polymerizing olefin(s) comprising combining said olefin(s) in the presence of a catalyst system comprising a Group 15 containing [bidentate or] tridentate ligated hafnium catalyst compound, wherein the hafnium metal atom is bound to at least one leaving group and to [at least two] three Group 15 atoms, and wherein [at least one of the at least] two of the Group 15 atoms [is bound to a Group 15 or 16 atom] are each bound to the third Group 15 atom through a bridging group; and a bulky ligand metallocene catalyst compound, wherein the bulky ligand metallocene compound and the Group 15 containing tridentate ligated hafnium catalyst compound are added to a polymerization reactor in one of a slurry, a solution, an emulsion, a dispersion or a suspension, and wherein the Group 15 containing tridentate ligated hafnium catalyst compound is represented by the formula:



Formula (1)

wherein M is hafnium;

each X is independently a leaving group;

n is the oxidation state of M;

m is the formal charge of the Y, Z and L ligand;

L is a Group 15 element;

Y is a Group 15 element;

Z is a Group 15 element;

R<sup>1</sup> and R<sup>2</sup> are independently a linear, branched, or cyclic C<sub>2</sub> to C<sub>20</sub> alkylene group;

R<sup>3</sup> is a hydrocarbon group, hydrogen, a halogen, or a heteroatom containing group;

R<sup>4</sup> and R<sup>5</sup> are independently an alkyl group, an aryl group, substituted aryl group, a cyclic alkyl group, a substituted cyclic alkyl group, a cyclic arylalkyl group, a substituted cyclic arylalkyl group or multiple ring system;

R<sup>1</sup> and R<sup>2</sup> may be interconnected to each other, and/or R<sup>4</sup> and R<sup>5</sup> may be interconnected to each other; and

R<sup>6</sup> and R<sup>7</sup> are independently absent, or hydrogen, an alkyl group, halogen, heteroatom or a hydrocarbonyl group.

McConville et al. (abstract; col. 14, claim 1) disclose an olefin polymerization process in the gas phase or slurry phase comprising a catalyst in the presence of an activator that is substantially identical to the catalyst system as claimed. Regarding the claimed polymerization temperature, McConville et al. (col. 13, example 8) clearly disclose a polymerization temperature of 60 degree C. Further, McConville et al. (col. 15, claims 16, 17) clearly teach a polymerization process involving ethylene and propylene. Regarding the claimed comonomers, McConville et al. (col. 6, line 41-49) clearly teach a copolymerization process involving comonomers having four or more carbons. Since McConville et al. contain all the features of claims 1, 5-8, 10-15, 46, claims 1, 5-8, 10-15, 46 are anticipated.

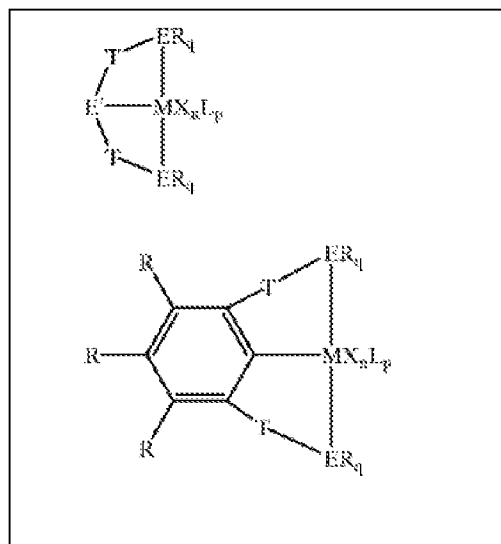
Applicant's arguments filed January 30, 2009 have been fully considered but they are not persuasive. Applicants argue that the claims are allowable because McConville et al. are silent on a catalyst comprising bulky ligands. However, applicants fail to recognize that McConville et al. (abstract; col. 14, claim 1) disclose an olefin polymerization process in the gas phase or slurry phase comprising a catalyst in the presence of an activator that is substantially identical to the catalyst system as claimed. Applicants do not have any basis to believe that the McConville et al. do not possess the bulky ligand as claimed.

8. Claims 1, 5-8, 10-15, 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsunaga (US 6,294,495) for the reasons adequately set forth from paragraph 13 of the office action of November 4, 2008.



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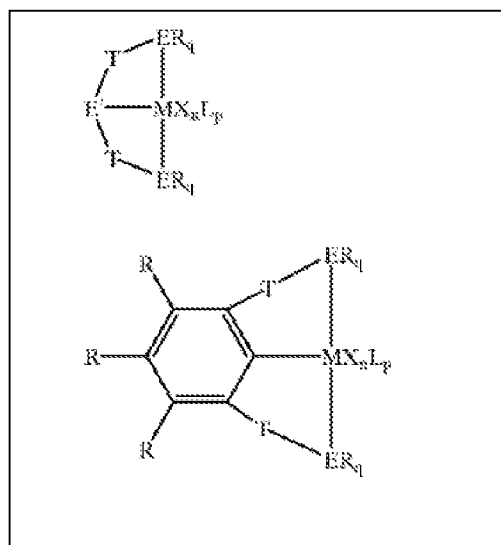
Matsunaga (abstract; col. 2, line 3-48) discloses tridentate structure as defined by formula (A).



Regarding the structure of claim 46, Matsunaga et al. (col. 4, clearly indicate that the R group of the disclosed tridentate structure can be alkyl-substituted aromatic radicals, which meet the requirements as claimed.

Matsunaga (col. 8, line 20-25) clearly indicates that the polymerization process can be carried out in liquid phase, such as solution, slurry, suspension, bulk phase or combination thereof. Regarding the claimed polymerization temperature, Matsunaga (col. 8, line 43-46) clearly teaches a polymerization temperature preferably ranging from -20 to 220 degree C. Regarding the claimed activator, Matsunaga (col. 5, line 18-65) clearly teach the use of a co-catalyst (or activator). Regarding the claimed comonomers, Matsunaga et al. (col. 9, line 40-49) disclose comonomers having the number of carbons that clearly met the feature of claim 13. Since Matsunaga contains all the features of claims 1, 5-8, 10-15, 46, claims 1, 5-8, 10-15, 46 are anticipated.

Applicant's arguments filed January 30, 2009 have been fully considered but they are not persuasive. Applicants argue that the claims are allowable because Matsunaga is silent on a catalyst comprising bulky ligands. However, applicants fail to recognize that Matsunaga (abstract; col. 2, line 3-48) discloses tridentate structure as defined by formula (A).



Regarding the structure of claim 46, Matsunga et al. (col. 4, clearly indicate that the  $R$  group of the disclosed tridentate structure can be alkyl-substituted aromatic radicals, which meet the requirements as claimed. Applicants do not have any basis to believe that the Matsunga et al. do not possess the bulky ligand as claimed.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (571)

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272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/William K Cheung/  
Primary Examiner, Art Unit 1796

William K. Cheung, Ph. D.  
Primary Patent Examiner  
February 13, 2009